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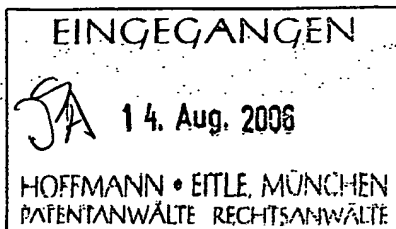
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Reference 114 439 a/npo	Application No./Patent No. 06006717.0 - 2305
Applicant/Proprietor Sherwood Services AG	

### Communication

The extended European search report is enclosed.

The extended European search report includes, pursuant to Rule 44a EPC, the European search report (R. 44 EPC) or the partial European search report/ declaration of no search (R. 45 EPC) and the European search opinion.

Copies of documents cited in the European search report are attached.

☒ 1 additional set(s) of copies of such documents is (are) enclosed as well.

The following have been approved:

☒ Abstract

☒ Title

☐ the Abstract was modified and the definitive text is attached to this communication.

The following figure will be published together with the abstract: 1

### Refund of the search fee

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2004/030329 A1 (HAGG MARTIN) 12 February 2004 (2004-02-12)  * figure 1 * * paragraph [0001] * * paragraphs [0031] - [0035] * * paragraph [0051] *	1-4, 7, 12, 13, 16-18	INV. A61B18/12
Y		5, 6, 14, 15, 19-23	
X	US 5 370 645 A (KLICEK ET AL) 6 December 1994 (1994-12-06) * figure 1 * * column 1, lines 6-13 * * column 6, lines 60-68 * * column 7, lines 1-45 * * column 8, lines 1-24 * * column 11, lines 20-33 *	8-11	
Y		22, 23	
Y	US 2003/144655 A1 (PANESCU DORIN) 31 July 2003 (2003-07-31) * figures 1, 3, 5 * * paragraphs [0002] - [0040] *	19, 20, 22, 23	TECHNICAL FIELDS SEARCHED (IPC)  A61B
Y	US 6 171 304 B1 (NETHERLY SAMUEL G ET AL) 9 January 2001 (2001-01-09) * column 9, lines 18-35 *	5, 6, 14, 15, 21	
A	US 5 436 566 A (THOMPSON ET AL) 25 July 1995 (1995-07-25) * the whole document *	1-23	
-/-			
The present search report has been drawn up for all claims			
Place of search <b>Munich</b>		Date of completion of the search <b>7 August 2006</b>	Examiner <b>Gentil, C</b>
<b>CATEGORY OF CITED DOCUMENTS</b>  X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document  T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons  & : member of the same patent family, corresponding document			



European Patent  
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## EUROPEAN SEARCH REPORT

Application Number  
EP 06 00 6717

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	NI W ET AL: "A SIGNAL PROCESSING METHOD FOR THE CORIOLIS MASS FLOWMETER BASED ON A NORMALIZED LATTICE NOTCH FILTER" JOURNAL OF APPLIED SCIENCES - YINGYONG KEXUE XUEBAO, SHANGHAI, CN, vol. 23, no. 2, March 2005 (2005-03), pages 160-164, XP009069377 ISSN: 0255-8297 * abstract *	6,15	
			TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 7 August 2006	Examiner Gentil, C
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 06 00 6717

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

07-08-2006

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004030329 A1	12-02-2004	WO 0211634 A1	14-02-2002
		EP 1307154 A1	07-05-2003
		JP 2004505662 T	26-02-2004
US 5370645 A	06-12-1994	AU 684756 B2	08-01-1998
		AU 6289394 A	08-11-1994
		CA 2160017 A1	27-10-1994
		DE 69415157 D1	21-01-1999
		DE 69415157 T2	06-05-1999
		EP 0695144 A1	07-02-1996
		FI 941787 A	20-10-1994
		WO 9423659 A1	27-10-1994
		JP 2671966 B2	05-11-1997
		JP 8504646 T	21-05-1996
		NO 954153 A	18-10-1995
US 2003144655 A1	31-07-2003	NONE	
US 6171304 B1	09-01-2001	AU 6880598 A	30-10-1998
		CA 2285469 A1	15-10-1998
		CN 1251976 A	03-05-2000
		EP 0971637 A1	19-01-2000
		JP 2001521420 T	06-11-2001
		WO 9844856 A1	15-10-1998
US 5436566 A	25-07-1995	NONE	

**The examination is being carried out on the following application documents:****Description, Pages**

1-35 as originally filed

**Claims, Numbers**

1-23 as originally filed

**Drawings, Sheets**

1/7-7/7 as originally filed

**1. Reference is made to the following documents:**

D1: US-A-2004/0030329

D2: US-A-5 370 645

D3: US-A-2003/0144655

D4: US-B-6 171 304

**2. The present application does not meet the requirements of Article 84 EPC, the reasons being as follows:**

Claims 1, 8, 12, 17, 19 and 22 have been drafted as separate independent apparatus claims. Under Article 84 EPC in combination with Rule 29(2) EPC an application may contain more than one independent claim in a particular category only if the subject-matter claimed falls within one or more of the exceptional situations set out in paragraphs (a), (b) or (c) of Rule 29(2) EPC. This is not the case in the present application because claims 1, 8, 12, 17, 19 and 22 merely try to describe in different words the same subject-matter.

If the procedure should be continued, the applicant is requested to file an amended set of claims which complies with Rule 29(2) EPC. Failure to do so, or to submit convincing arguments as to why the current set of claims does in fact comply with



these provisions, will lead to refusal of the application under Article 97(1) EPC.

3. The present application does not meet the requirements of Article 52(1) EPC, because the subject-matter of claims 1-4, 7-13, 16, 17 and 18 is not new in the sense of Article 54(1) and (2) EPC, for the following reasons:

3.1 Document D1 discloses all the features defined in independent claim 1:

A control system for use with an electrosurgical generator that delivers electrosurgical energy to tissue, the control system comprising a control module including at least one processor (D1: Fig. 1, (4, 8); Par. [0001]; Par. [0031], lines 1-3 and Par. [0032]), said at least one processor executing an algorithm comprising the steps of:

- determining a sensed voltage value corresponding to a sensed voltage signal output by the electrosurgical generator (D1: Fig. 1, (2); Par. [0031], lines 3-4; Par. [0032], lines 1-4);
- determining a sensed current value corresponding to a sensed current signal output by the electrosurgical generator (D1: Fig. 1, (3); Par. [0031], lines 3-4; Par. [0032], lines 4-5);
- determining phase information corresponding to a phase shift between the at least one voltage signal and at least one current signal (D1: Par. [0032], lines 9-10); and
- determining a characteristic related to the electrosurgical energy delivered to the tissue using the phase information, the sensed voltage and the sensed current (D1: Par. [0032], lines 5-10).

3.2 Document D2 discloses all the features defined in independent claim 8:

A control system for use with an electrosurgical generator that delivers electrosurgical energy to tissue (D2: Col. 1, lines 6-13), the control system comprising a control module including at least one processor (D2: Fig. 1, (20); Col. 7, lines 40-45), said at least one processor executing an algorithm comprising the steps of:

- determining a sensed voltage value corresponding to a sensed voltage signal output by the electrosurgical generator (D2: Col. 8, lines 1-3)
- determining a sensed current value corresponding to a sensed current signal output by the electrosurgical generator (D2: Col. 8, lines 1-3);



- determining impedance information corresponding to impedance of at least one energy-carrying component (D2: Col. 6, lines 66-68; Col. 7, lines 1-7 and Col. 8, lines 5-9); and
- determining a characteristic related to the electrosurgical energy delivered to the tissue using the impedance information, the sensed voltage and the sensed current (D2: Col. 8, lines 16-24 and Col. 11, lines 20-33).

- 3.3 The objection raised in respect of independent claim 1 (see item 3.1) applies mutatis mutandis to independent claim 12 which is thus not allowable under Article 52(1) EPC for lack of novelty of its subject-matter, Article. 54(2) EPC.
- 3.4 Moreover, the subject-matter of independent claim 17 lacks novelty (Art. 54(2) EPC) in view of the quotations mentioned under item 3.1 and since the apparatus disclosed in document D1 is provided with means for modulating the electrosurgical energy delivered to the patient in response to the electrosurgical energy value determined using the sensed voltage, the sensed current and the phase difference (see D1: Fig. 1, (5, 6, 7) and Pars. [0033], [0034] and [0035]).
- 3.5 Furthermore, the subject-matter of dependent claims 2-4, 7, 9, 10, 11, 13, 16 and 18 lacks novelty (Article 54 EPC) since the following supplementary features are also disclosed in D1:

- Claims 2, 3, 4, 13 and 18; see D1: Par. [0051]. Regarding claims 2, 13 and 18, it is considered that the impedance of the energy carrying elements constituting the electrosurgical system is a part of the total load impedance continuously measured by the impedance sensor [D1: Par. [0051], lines 6-8]. Moreover, the impedance of the energy carrying elements necessarily has inductive, capacitive and resistive components (claim 3). Regarding claim 4, it is considered that the load impedance sensor [D1: Par. [0051], lines 6-8] is necessarily provided with means for storing information.

- Claims 7 and 16; see D1: Fig. 1, (5, 6); Pars. [0033], [0034] and [0035].



- Claim 9; see D2: Col. 6, lines 66-68 and Col. 7, lines 1-7.
- Claim 10; see [D2: Col. 11, lines 20-33] regarding impedance information obtained via stored information accessible to the processor.
- Claim 11; see D2: Col. 8, lines 16-24 and Col. 11, lines 20-33.

4. The present application does not meet the requirements of Article 52(1) EPC, because the subject-matter of independent claims 19 and 22 does not involve an inventive step in the sense of Article 56 EPC, the reasons being as follows:
- 4.1 Independent claim 19 lacks an inventive step (Art. 56 EPC) over the disclosure of document D1 (see [D1: Par. [0001], [0033] and [0034]] regarding the method for adjusting the output power of an electrosurgical system connected to an external device; [D1: Par. [0032] and Par. [0051], lines 6-8] regarding the impedance, voltage, current and phase factors) combined with that of document D3 (see [D3: Fig. 3; Par. [0002]; Par. [0010]; Par. [0031], lines 1-9 and 13-16; Par. [0035], lines 1-3; Par. [0036], lines 1-3 and Par. [0038], lines 1-3] regarding power loss determination using at least one of the impedance, voltage, current and phase factors and [D3: Par. [0038], lines 1-15] regarding the modulation of the power output of the electrosurgical system in response to power loss determination).
- 4.2 Additionally, the subject-matter of independent claim 22 does not involve an inventive activity (Article 56 EPC) in view of a combination of documents D3 and D1 or D2.

In particular, document D3, which is considered as being the closest prior art, discloses an electrosurgical system comprising:

- a generator (D3: Figs. 1-3, (11) and Par. [0021], lines 1-4);
- a therapeutic device connected to the generator and comprising an electrode (D3: Fig. 3, (53); Fig. 5, (72) and Par. [0040], lines 1-3 and 8-10);
- a current sensor configured to measure the output current of the generator (D3: Fig. 3, (57) and Par. [0031], lines 1-9);
- a microprocessor connected to the current sensor that calculates one or more





parameters of an electrosurgical energy (D3: Fig. 3, (15) and Par. [0032], lines 9-13);

- a conduit for transmitting electrosurgical energy (D3: Fig. 5, (76) and Par. [0040], lines 8-20); and

- said conduit including an encoded rating relating to a loss of energy from the conduit and being communicated to an input of the generator (D3: Par. [0032], lines 1-9 and Par. [0037], lines 3-9) wherein the generator outputs a compensated signal attributable to the energy loss from the conduit (D3: Par. [0038], lines 1-15).

The apparatus defined in claim 22 differs from the device disclosed in document D3 in that the electrosurgical energy parameters are calculated using current- impedance values instead of current-voltage values (see D3: see Par. [0031], lines 1-9 and 13-16). However, in electric circuits, use of current-voltage measurements and use of current-impedance measurements in order to calculate power values are two equivalent possibilities generally known in the art. Moreover, documents D1 and D2 disclose in the same context, impedance sensors enabling load impedance measurements (see [D1: Par. [0051], lines 6-8] or [D2: Col. 8, lines 5-9]). Therefore, the inclusion of an impedance sensor into the apparatus disclosed in document D3 does not involve any inventive activity (Art. 56 EPC).

As a consequence, claim 22 is not allowable under Article 52(1) EPC for lack of inventive step of its subject-matter.

5. The supplementary features of dependent claims 5, 6, 14, 15, 20, 21 and 23 are also known from the prior art and do not add anything of inventive significance (Article 56 EPC) to the subject-matter of the independent claims they refer to, in view of a combination of:

- D1 and D4 as regards claims 5, 6, 14, 15 and 21; see D4: Col. 9, lines 18-35. Use of Fourier transform in order to determine phase angles is considered to be generally known in the art.

- D1 and D3 as regards claim 20; see D1: Par. [0032], lines 9-10.



- D3 and (D1 or D2) as regards claim 23; see D3: Par. [0027], lines 5-8.

6. If the applicant intends to file a new set of claims, he is requested to take into consideration the following remarks:
- 6.1 Documents D1, D2 and D3, which appear to represent the most relevant prior art, should be acknowledged in the description (Rule 27(1)(b) EPC).
- 6.2 The applicant is requested to take into account the requirements of Article 84 EPC in combination with Rule 29 EPC and in particular Rule 29(1) and Rule 29(2) EPC.
- 6.3 Any independent claim should be filed in the two-part form, as required by rule 29(1) EPC. If the applicant is of the opinion that a two-part form would be inappropriate, he is invited to provide reasons in his reply. In addition, the applicant should ensure that it is clear from the description which features of the subject-matter of claim 1 are known from documents D1, D2 and D3 (see Guidelines, C-III, 2.3.b).
- 6.4 Furthermore, according to Rule 29(2) EPC, only a single independent claim of anyone category is admissible.
- 6.5 The features of the claims should be provided with reference signs placed in parentheses to increase the intelligibility of the claims (Rule 29(7) EPC).
- 6.6 The vague and imprecise statements appearing in the description of the present application (see "incorporated by herein by reference" on page 14, line 21 and page 35, last paragraph) imply that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity of the claims (Article 84 EPC) when used to interpret them (see the Guidelines, C.III, 4.3.a). Said statements should therefore be amended to remove this inconsistency.
- 6.7 On pages 14 and 15 the serial number of the patent application should be replaced by the corresponding publication number. However, the serial number should be retained in parentheses after the publication number.



6.8 When filing amended claims the applicant should at the same time bring the description into conformity with the amended claims. Care should be taken during revision, especially of the introductory portion and any statements of problem or advantage, not to add subject-matter which extends beyond the content of the application as originally filed (Article 123(2) EPC).

7. In order to facilitate the examination of the conformity of the amended application with the requirements of Article 123(2) EPC, the applicant should clearly identify the amendments carried out, irrespective of whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based (see Guidelines E-II, 1).

If the applicant regards it as appropriate these indications could be submitted in handwritten form on a copy of the relevant parts of the application as filed.

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